

# Health and rehabilitation games for children with disturbance of the functional state of the digestive system in the complex rehabilitation program

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PhD, Associate Professor **I.N. Bakay**<sup>1</sup>  
PhD, Associate Professor **N.P. Konstantinova**<sup>1</sup>  
**O.S. Ivanova**<sup>1</sup>  
**M.S. Semiryazhko**<sup>1</sup>  
<sup>1</sup>Russian State Social University, Moscow

Corresponding author: irinasyazina@mail.ru

## Abstract

**Objective of the study** was to experimentally substantiate the effectiveness of the use of health-improving and rehabilitation games for children aged 5-6 years with functional indigestion.

**Methods and structure of the study.** The developed comprehensive program of physical rehabilitation of children aged 5-6 years with a violation of the functional state of the digestive system was used, which consisted of adaptation, training and stabilization periods and included therapeutic exercises, hydrocolonotherapy, therapeutic massage, self-study.

**Results and conclusions.** The developed comprehensive program of physical rehabilitation allowed to achieve a more effective improvement in the functional state of the digestive system, the clinical picture of the disease, and had a positive effect on the health of children with biliary dyskinesia.

**Keywords:** children, functional disorders of digestion, rehabilitation, physical rehabilitation, health, recreational and rehabilitation games.

**Introduction.** Currently, many issues of treating children with digestive disorders are being successfully solved [3], but drug therapy often gives a temporary, unidirectional effect, in connection with this fact, the need arises for the contribution of non-drug therapy, in particular, based on the use of physical activity [2].

Game exercises occupy a special place both in the physical education of the child and in treatment, providing a complex effect on his body and high emotionality. The features of the use of games in childhood include their emotional saturation, against which the functional reserve capabilities of the body increase significantly, and scattered muscle load prevents fatigue, games are a specific type of children's activity [2].

**Objective of the study** was to experimentally substantiate the effectiveness of the use of health-improving and rehabilitation games for children aged 5-6 years with functional indigestion.

**Methods and structure of the study.** The pilot study was carried out during 2008-2012. on the bases of: Children's preschool institution of a combined type No. 809, Children's preschool institution of a compensating type No. 2185, Child Development Center No. 1678, Moscow. The studied contingent - 99 children, boys and girls, 5-6 years old. Within the framework of the study, the following were formed: the first experimental group - 27 children, the second experimental group - 24 children. The children of the experimental groups were diagnosed with biliary dyskinesia (disturbance of the functional state of the digestive system), mixed form, in the stage of incomplete remission. The control group included 48 children (main medical group).

In physical rehabilitation, there is no concept of "health-rehabilitation games". Games used in rehabilitation cannot have the same content as outdoor



games, since their main focus is to satisfy emotional needs, and in rehabilitation, the need to consolidate the acquired skills in difficult conditions of activity comes first. Thus, within the framework of this study, the concept of "health-rehabilitation games" has been clarified.

**A game** is a kind of unproductive activity, where the main motive lies in the pleasure associated not only with the result, but also with the very process of activity [1].

**A mobile game** is a kind of game activity, which is based on a variety of active movements, motor actions, motivated by the plot of the game, which contributes to the comprehensive improvement and consolidation of motor skills, vital motor qualities [1].

**A health game** is a kind of game activity aimed at improving, normalizing, a favorable state of the body [4].

**Rehabilitation game** is a kind of game activity aimed at restoring lost abilities or their correction after various diseases or injuries, using physical exercises [4].

**"Health-rehabilitation games"** is an integrative means of therapeutic physical culture, which optimally combines the general health-improving effect of physical exercises on the child's body and is aimed at improving the restored functions and their manifestation in a specially organized complicated game activity.

In the course of the study, a developed comprehensive program of physical rehabilitation was used for children aged 5-6 years with a violation of the functional state of the digestive system in a preschool educational institution.

The experiment involved two experimental groups: group 1 and 2, which were engaged in the developed program of physical rehabilitation. The control group of children did not study according to the developed program, they attended classes organized in a preschool educational institution.

The complex program consisted of three periods: adaptation, training and stabilization and included the following activities: therapeutic gymnastics (general developmental and special exercises with various sports and recreational equipment, recreational and rehabilitation games, breathing exercises, relaxation exercises, classes on fitballs, physiorola, exercises on simulators: exercise bike, treadmill, support bars), hydrocolonotherapy (physical exercises in water), therapeutic massage, self-study.

The program was implemented according to the scheme: classes for the children of the experimental

groups were held three times a week, the 1st group had two sessions of therapeutic exercises with the inclusion of recreational and rehabilitation games and one session of hydrocolonotherapy, the 2nd group had three sessions of therapeutic exercises with the inclusion health and rehabilitation games.

Consider the features of the use of health-improving and rehabilitation games in a comprehensive program of physical rehabilitation.

Health-improving and rehabilitation games of a special orientation were included in the structure of the physical rehabilitation program during the training and stabilization periods, at the end of the main part of the therapeutic exercises. In the training period, games of medium intensity were used, the duration of the game was 2-3 minutes, in the stabilization period - 3-4 minutes.

When assigning health-improving and rehabilitation games to children with impaired functional state of the digestive system, the following data were taken into account: age, gender, individual characteristics of the child, the specifics of the disease (hypertonicity or hypotension). Health-improving and rehabilitation games were aimed at improving the outflow of bile and training the abdominal muscles, normalizing the psycho-emotional state of the child.

Approximate health-improving and rehabilitation games for biliary dyskinesia, used in a comprehensive program of physical rehabilitation (according to O.V. Kozyreva, S.V. Matveev):

1. "Funny turtles." Non-competitive game. Walk and run on all fours. Rules of the game: all participants, standing on all fours, have a shell on their back - an inflatable ring or a large soft toy. To the music, the turtles walk, walking forward, backward, with side steps to the right, to the left, turning in a circle at the same time and always keeping the ring on their backs. At the signal "high tide", all the turtles run to the indicated place. If the shell is lost, then the player must "crawl" to it, putting it on his back and return on all fours to the indicated place. The game is repeated several times.

2. "Shells". Cooperative game. The goal is to move the "pearl" handful. Rules of the game: all participants are lined up in a column of two. Each pair has gymnastic sticks in their hands, on which two balls with a diameter of 30-40 cm lie (you can use massage balls that are easier to hold between the sticks). At the signal of the teacher, the first pair of participants run around the turn and return to the next players. Having passed the baton, he drops the pearls into the "pool".



The game continues until all participants have passed their stage. The time of the whole team is taken into account.

3. "Jumps". Children stand straight, feet shoulder-width apart, lean in front and rest their hands on the floor. The arms and legs should be straight. The host announces the start of the race. Who is the fastest horse? For a warm-up, children are offered to walk first in a step in place for 15-20 s. The host thanks the children and notes that the horses are doing well in walking. Then he explains to the children that they will also jump in place. He defines the task: run as fast as possible, jump higher and more rhythmically. At the signal of the gong, the children depict races for 1 minute. At the end of the race, the leader and assistant call graceful "steeds", fast, frisky, etc., not forgetting to mark each child. In conclusion, thank all the children for participating in the game.

4. "Wheelbarrow". Children are divided into pairs. One gets on all fours and "turns" into a wheelbarrow. To do this, the partner takes him from behind by the legs and "lucky". The owner of the wheelbarrow must skillfully manage it and, at the signal of the leader, turn to the right, to the left, drive it either faster or slower. The wheelbarrow requires complete obedience to its "master". The facilitator evaluates how effective the interaction in pairs is. The exercise is carried out for 30 seconds, then the partners change places. Exercise strengthens the muscles of the hands and is very popular with children, excites them.

5. "Cat". The facilitator invites the children to kneel down and rest their palms on the floor. Now we will depict a cat. At first, the cat is unhappy. She arches her back as much as possible up. Now the cat is stretching. The back bends down. Movements should be energetic, but at the same time smooth and graceful. Movements alternate for 2 s. Then the children are asked to lie on their back, quickly and gracefully roll over to one side and then to the other, while simultaneously performing sipping movements with their arms and legs on one side and a curling movement on the other, as a cat does when it is very pleased. The exercise is performed within 2 seconds.

**Results of the study and their discussion.** During the implementation of the study, the effectiveness of the developed comprehensive program of physical rehabilitation with the inclusion of health-improving and rehabilitation games was proved: stable remission was observed in 18 (67%) children of experimental group 1 and 11 (46%) children of group 2. In nine

(33%) children of group 1 and 13 (54%) children of group 2 experienced unstable remission. The change in the nature and frequency of attacks, they began to be episodic - once every six months - and proceeded in a smoother form.

The developed comprehensive program of physical rehabilitation allowed for a more effective improvement in the functional state of the digestive system, the clinical picture of the disease, and had a positive effect on the health of children with biliary dyskinesia.

**Conclusions.** For children with impaired functional state of the digestive system during the period of remission of the disease, it is advisable to apply a comprehensive program of physical rehabilitation in a preschool educational institution, with the inclusion of health-improving and rehabilitation games of a special orientation.

To improve the functional state of children, it is recommended to include in the physical rehabilitation program an individual complex of play activities at home (special play exercises for the abdominal muscles, breathing exercises with elements of games, play exercises for relaxation).

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